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EXTREMELY HIGH FREQUENCY (EHF) PUNCTURE THERAPY AND SYNDROMES OF TRADITIONAL CHINESE MEDICINE

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ABSTRACT Extremely high frequency (EHF) puncture is a new method of treatment based upon biological effects of low power electromagnetic waves of millimetric band and acupuncture theory of traditional Chinese medicine (TCM). It is non-invasive, painless and effective.

Extensiveness and variety of the specific sensations (Deqi phenomenon) during EHF-puncture reflect intensive reactions of the patient's organism and provide individualization of therapy.

EHF-puncture is a step of integration of traditional Chinese with modern Western medicines.

KEY WORDS Extremely high frequency therapy Syndrome of TCM Millimeter electromagnetic radiation

EXTREMELY HIGH FREQUENCY (EHF) THERAPY

Low intensive electromagnetic radiation (EMR) of MM band is absorbed by hydrated structures mainly^[1], in natural space MM EMR is blocked with the water molecules of the atmosphere. It results in high sensitivity of bio-objects to artificial MM EMR.

There are several kinds of devices to conduct EHF-therapy, which give possibility to apply EMR with individual and fixed frequency and to radiate locally on the skin projections of acupoints (AP) or on the wide skin zones: Jav-I, Electronica-EHF, G4-142, etc.. Some of them has frequency deviation and incorporated measuring of the power of EMR and the modulator-attenuator, for example-Phytia-ASKVIT. Fig. 1

Analysis of the literature dealing with the EHF-problem lets it possible to specify several types of the effect appearing during EHF-influ-

ence:

- 1) Specific effects associated with the frequency of MM EMR,
- 2) Non-specific effects associated with the irradiated zone,
- 3) Non-specific effects conditioned by developing of the general adaptation syndrome (GAS)^[2-6].

There are several kinds of EHF-therapy that reflect different opinions on the mechanisms through which the therapeutic effect is being realized: EHF-therapy with individual frequency of MM EMR, EHF-therapy with individual irradiated zones, EHF-therapy with both individual frequency and irradiated zones and EHF-therapy without individual frequency as well as zones.

The individual therapeutic frequency (ITF) is generally selected on the strength of sensory reactions experienced by patients during the change of MM-radiation frequency. It is believed that ITF produces the most comfortable sensations and not in the irradiated zone but in

the area of projection of the affected organ^[6]. The sensory reactions are accompanied by changes in the functions of various organs and systems that can be registered by means of an electrocardiography, an electroencephalograph.

an electrogastrography, a heat monitor, etc.. Different methods for determining the ITF using instrument have been proposed.

Devices for EHF-Therapy.

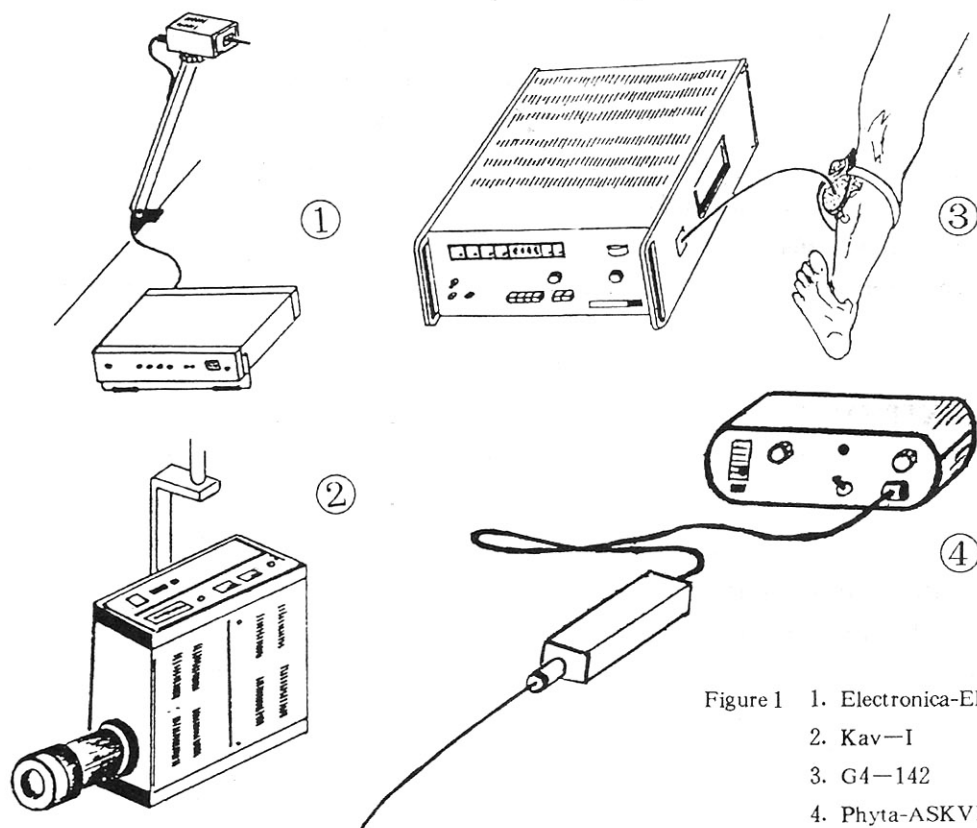


Figure 1 1. Electronica-EHF
2. Kav-I
3. G4-142
4. Phyta-ASKVIT

Temperature measurements were taken on the sites of AP skin projections while EM frequencies were being changed. It was noted that with the appearance of sensations it was possible to observe the changing of the temperature at the AP of the certain meridians. So we suggested that the occurring sensations reflected the phenomenon Deqi (Teh Chi) known from traditional Chinese medicine (TCM). By now there is enough theoretical, experimental and clinical materials^[7-9] allowing the assumption that in the

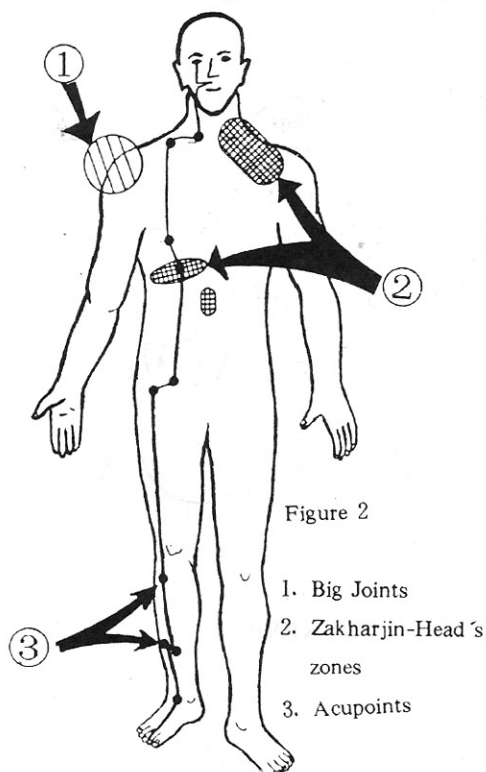
leading role of EHF-therapy in enhancing the treatment efficacy is played not by MM EMR frequency but by site (zone) to which the radiation is applied. The radiation frequency determines the peculiarity of MM-EM waves absorbed by the water-containing skin structures^[1,10], i. e. the absorption and reflexion and hence, the intensity of irritation of the stimulated zone. In the end non-specific effect of EHF-therapy is realized through participation of various macroorganism systems and does not differ

essentially from the effects resulting from the action of other factors of electromagnetic and non-electromagnetic nature^[11].

SYNDROMES OF TRADITIONAL CHINESE MEDICINE

That is skin of big joints, Zakharjin-Head's zones or AP that are irradiated more often during therapeutic application of MM EMR^[12]. It was found that APs were hypersensitive to MM EMR^[6] which apparently was due to the high tissue hydration of AP^[13]. Fig 2.

Zones of the Skin Applied for EHF-Therapy



Most patients, no matter what their diseases are, produce certain types of symptoms:

1) Acute non-specific symptoms reflecting the development of the general adaptation syn-

drome (or Selye's syndrome of adaptation).

2) Specific symptoms reflecting the particular features of the disease.

3) Chronic non-specific symptoms conditioned by constitutional peculiarities of the patient.

Domination of this or that group of symptoms is determined by the acuity of the pathologic process. The more acute the onset of the disease, the more GAS symptoms. When the process becomes less acute, some specific symptoms appear which are conditioned by the nosologic form or "localization" of the affection. After that the constitutional symptoms start to play the leading role. When chronic disease is being treated the reverse order in the change of clinical manifestations is usually observed. Analysis of different TCM theories allows to select the groups of syndromes describing specific and non-specific symptoms of acute and chronic diseases.

1. Syndromes of the first group:

The acute non-specific symptoms are most comprehensively described by Chinese physician Zhang Zhongjing in "Treatise on Febrile Diseases caused by Cold (Shanghan Lun)"^[14,15]. If a disease is characterized only by the signs of Heat, then the theory of the four stages (Wei, Qi, Ying, Xue) can be used^[16,17]. If disease is of Heat-Damp nature, then the theory of the Triple Energizer Meridian (Sanjiao) is in use^[16-18]. Fig. 3-1.

2. Syndromes of the second group:

Specific symptoms of the diseases are differentiated according to the syndromes affecting "Zang and FU organs" and "Meridians and Collaterals" (regular, tendo — muscular, Luo and divergent)^[16,17]. Fig. 3-2.

3. Syndromes of the third group:

Chronic non-specific symptoms are described according to the "Five Constitutions",

syndromes of deficiency of Zang organs, Yin, Yang, blood, Qi and four Seas^[16-18]. Fig. 3-3.

Application of different Theories of Traditional Chinese Medicine

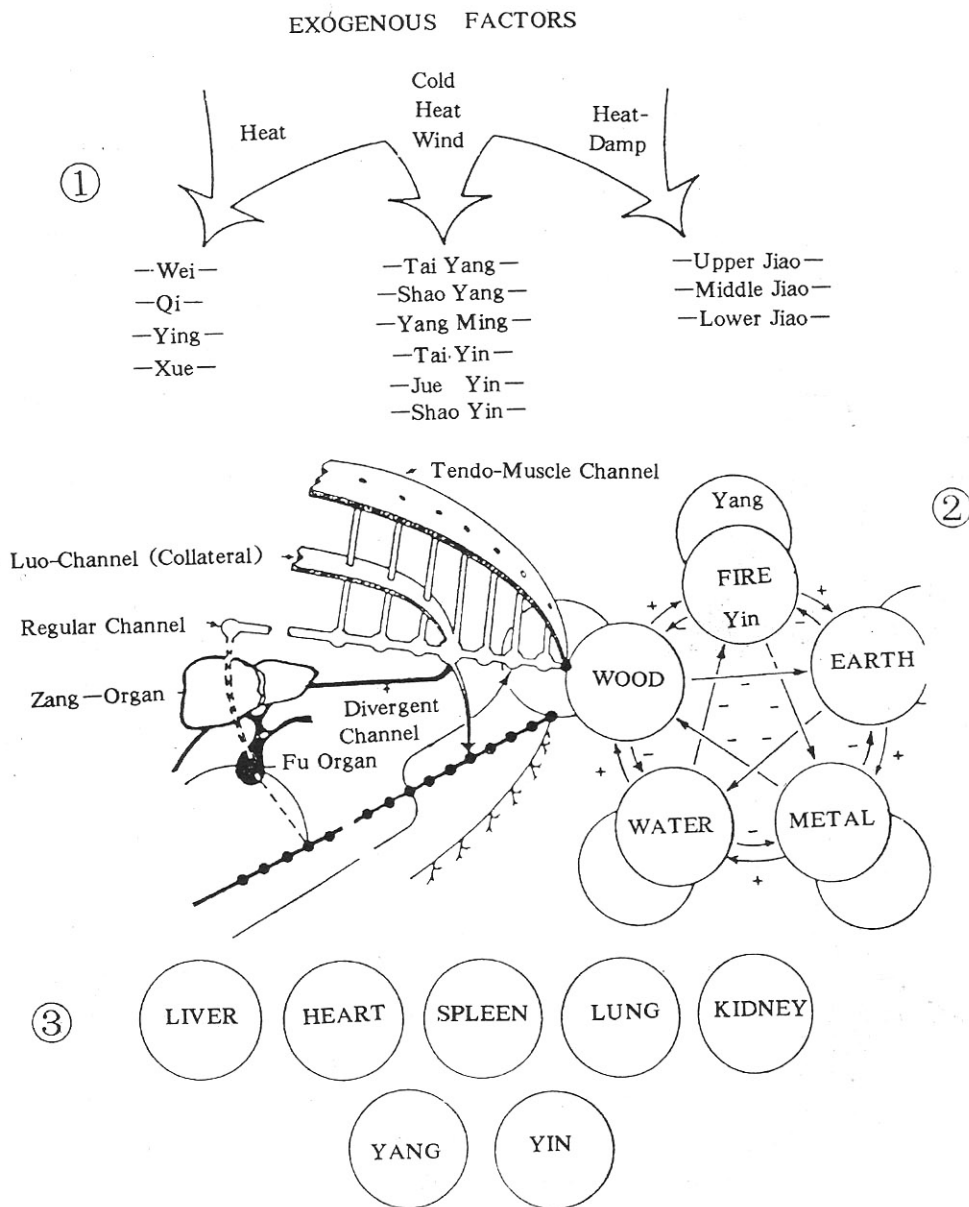


Figure 3

1. Syndromes of the 1st group: Six Channels Four Stages San Jiao
2. Syndromes of the 2nd group: Channels & Collaterals Zang & Fu Organs
3. Syndromes of the 3rd group: Deficiency of Zang Organs Deficiency of Yang & Yin

Symptoms of the damage to the Curious (Extra-) channels can be placed into any of the syndrome groups described above. Yangwei connects the levels Taiyang and Shaoyang while Yinwei links the 3 Yin levels; Taiyin, Jueyin and Shaoyin. So these syndromes can be used in combination with "the theory of six meridians" in treatment of exogenous diseases^[16,17,19]. Besides, each Curious Channel has certain constitutional peculiarities^[20] and disorder due to endogenous factors^[17,18,22].

The order in which the syndromes of different groups are used; If the patient shows manifestations of an acute disease or aggravation of a chronic disease then "the theory of six meridians" can be applied. Treatment is conducted every day or every other day and very seldom — twice a day. the deeper the diseased level, the less often are the sessions; the more superficial, the more often. Regardless of different nosological form, similar syndromes determine selection of similar AP. Usually "the theory of six meridians" was used in treatment of acute gastric and duodenal ulcers, initial stages of various catarrhal disease, abstinence syndromes, etc. That is of any disease and condition when "the acute non-specific symptoms" are present. When specific symptoms are present, the second group of syndromes are used. Treatment is conducted 2 times a week or less. Usually, this group of syndromes was applied in treatment of chronic peptic ulcer, gastric polyps, renal and hepatic cysts, bronchial asthma, etc.. The third group of syndromes was applied to treat diseases with chronic non-specific symptoms. The procedures were usually carried out according to the principles of the "Shu-Mu therapy". Additionally the "Specific" points and points of

the "Four seas" were used. Sessions were conducted once a week or less often. When there are Deficiency syndromes of several Zang organs, it is necessary to take into account their interaction according to "the law of the Five Elements". Syndromes of the third group were usually involved in treatment of Coronary Heart Diseases (Angina Pectoris), bronchial asthma, constipation, enuresis and other chronic diseases.

There is a possibility, sometimes, to use together syndromes of different groups, for instance, the simultaneous presence of related syndromes: Yangming, Deficiency of the Stomach Yin and Deficiency of Yin (or Kidney Yin). Fig. 3.

Recommendations of TCM on the choice of the side of the body for the treatment should be taken into account. If it is necessary to sedate AP, in summer and spring time it is better to act mostly on the right side of the body, whereas in autumn and winter on the left side of the body^[18].

MODALITY OF THE EHF-INFLUENCE

MM EMR can be used for curing diseases of the Deficiency and Excess, Heat and Cold types. The modality of the effect is determined by the duration of points irradiation. For tonifying (t) effect the duration does not exceed 2—5 minutes. It is necessary to wait for the first specific sensations (SS). For the sedating (S) effect the irradiation should be 15—20—25 minutes. It is necessary to wait for the appearance of the SS, the build up of their intensity and following subsiding. For the "warming up" the ac-

tion does not exceed 0.5—2.0 minutes. Some patients have a sensations of warmth in the irradiated area or in the other place of the body. This is accompanied by the pulse quickening, from 2—3 beats (Cold) to 5 (Normal) per one breath. For the "cooling" the action duration may reach 20—30 minutes and more. The pulse rate gets lower from 6—8 beats (Heat) to 5 beats per breath.

SPECIFIC SENSATIONS DURING EHF-PUNCTURE

Specific sensations during EHF-Puncture have some peculiarities. According to the TCM theory the curative effect of the treatment can be assessed on the basis of the specific sensations (phenomenon "De Qi" or "Ten Chi") that patients feel during acupuncture, Qigong and other TCM treatment methods. There are several types of De Qi. The first one involves sensations arising in the AP region. The second type includes sensations propagated along the meridian. The third kind of De Qi refers to the entire meridian or Organ.

During EHF-puncture sessions the first De Qi is rather seldom. Usually in the beginning of the session some "waves" or "creeps" appear that propagate along the extremities and the trunk. After that the patients experience various sensations which reflect elimination of the initially present disorders. With the "Deficiency of the Spleen" syndrome, for example, which apart from other symptoms is characterized by the "heaviness in the body" after 1—2 minutes irradiation of AP Dadu (SP 2), the patient feels "lightness in the abdomen or in the entire body", "rocking" or even "flies above the couch". Irra-

diation of Zusanli (ST 36) or Neiting (ST 44) during 20—30 minutes for the "Excessive Heat in the Stomach" syndrome (increased appetite, constipation, mouth dryness, etc.) is followed by elimination of mouth dryness, increased salivation, feeling of the abdomen cooling down, etc. Some patients experience various "visual sensory reactions" with the closed eyes, that is "change of colors", "appearance of light" or even more complex visual images.

As a rule, the therapeutic effect is linked with the type and intensity of sensory reactions.

INDICATIONS

During our work we tried EHF-puncture in treatment of different diseases including peptic ulcers^[9], gastric polyps^[22], angina pectoris^[23], panic attacks^[24], renal and hepatic cysts, bronchial asthma, enuresis, some hematologic diseases, various abstinence and pain syndromes, etc. Apparently, a possibility to diagnose a TCM syndrome is an indication for prescribing EHF-puncture.

The therapeutic effect is generally lower in the patients that have had a surgical intervention in the anamnesis.

During the combined treatment with the EHF-puncture and modern medicines, an overdosage effect can be observed.

COUNTERINDICATIONS

We consider, that only poor qualification of the doctor can be counterindication to apply EHF-puncture.

COMPLICATIONS

During application of EHF-puncture no complications caused by MM EMR were observed. Nevertheless, a wrong diagnosis (TCM syndrome), an inadequate treatment (for example, the "Excess" syndrome treated with reinforcing method, the "Deficiency" syndrome treated with reducing method) may give rise to a development of an acute form of the disease, a growth in intensity of the usual complaints and even some new complaints.

CONCLUSION

Hence the EHF-therapy with individualized selection of the irradiation acupoints according to TCM syndromes approach is a new and effective method for curing various diseases including those diseases for which the aspects of aetiology and pathogenesis have not yet been solved, where the nosologic diagnosis is difficult and where the modern methods of examination and treatment have not been developed^[25].

We consider that EHF-puncture could be one of the therapeutic method which may help patients suffering from AIDS.

REFERENCES

1. Ilyina S., Bakaushina G., Gayduck V., et al. About Possible Role of the Water in Transmission of the Millimetric Radiation Influence to Biological Objects. *Biophysics*, 1979,24 (3) : 513—518.
2. Devyatkov N. (Ed). *Millimetric Waves in Medicine and Biology*. Inst. Radioengineering and Electronics, USSR Academy of Sciences, Moscow, 1989,307.
3. Sitko S. (Ed). *Fundamental and Applied Aspects of Application of Millimetric Electromagnetic Radiation in Medicine: The First All-Union Symposium with International Participation*. May 10-13, 1989 (abstracts) Kiev, Provisional Research Collective "Otklik", 1989,404.
4. *Microwaves in Medicine 1991: International Scientific Meeting April 8-11, 1991, Belgrad (Digest of Papers)*, 1991,304.
5. *Millimetric Waves of Nonthermal Intensity in Medicine: International Symposium*, November 6-9, 1991, Moscow, (Digest of papers) V I.Moscow, 1991,321.
6. Andreev E., Belyi M., Sitko S.: Human Reactions on the Electromagnetic Radiation of Millimetric Band. *Herald of the USSR Academy of Sciences*, 1985,1 : 24—32.
7. Golant M., Sevast'yanova N.. Radioelectronic Grounds of the Possibility to Apply EHF-Generators Radiating Only One Frequency to Treat Different Diseases. *Electronic Techniques, Series of Electronics UHF*, 1989,6(240) : 48—53.
8. Tchernyakov G., Korochkin V., Babenko A. et al.. Reaction of Biosystems of Different Complexity on the Influence of Low Intensive EHF-Radiation. *Millimetric Waves in Medicine and Biology*, 1989,2 : 140—167.
9. Teppone M., Vetkin A., Kalin A., Krotchenko A.. Extremely High Frequency Therapy of Duodenal Ulcer. *Clin. Medicina (Moscow)*, 1991,69(10) : 74—77.
10. Betsky O., Ilyina S.. Skin and the Problem of Millimetric Waves Interaction with Biological Objects. *Millimetric Waves in Medicine and Biology*, 1989,2 : 296—302.
11. Tchernyakov G.. Some Ideas on the Development of the Complex Biological Systems Reactions on the Millimetric Waves Influence. Application of the EHF-Radiation of Low Intensity in Biology and Medicine -The VII-All-Union Seminar, November 13-15, 1989, Zvenigorod (Abstracts), Moscow, 1989,92.
12. Rodstat I.. Physiological-Grounded Versions of the Therapeutic Influence of Millimetric Radiowaves on the Human Skin. *Millimetric Waves in Medicine and Biology*, 1989,2 : 72—82.
13. Buvin G., Berlin Yu.. Device for Reflex Diagnostics with the UHF Methods. *The Modern Problems of Reflexodiagnosis and Reflexotherapy*, Rostov on Don, 1984,186.
14. Zhang Zhongjing. *Treatise on Febrile Diseases Caused by Cold (Shanghan Lun)*. Beijing, 1986,442.
15. Cheng Tan-An's Treatment of Shang Han Diseases. *Am. J. Acupuncture*, 1988,16(4) : 351.
16. Chamfrault A., Nghi N. V. *Traite de Medicine Chinoise*.

- L'Energetique Humaine en Medicine Chinoise. T 6. Angouleme, 1969, 463.
17. Deng Liangyue, Gan Yijun, He Shuhui, et al. Chinese Acupuncture and Moxibustion. Chief Ed. Cheng Xinnong. Beijing, 1987, 544.
 18. Klassische Akupunktur Chinas Ling Ku King (Ling Shu Ching): Des gelben Keisers Lehrbuch Der Inneren Medicin. 2 Teil, Stuttgart, s. 1974, 544.
 19. Quartarone M., Piccolo R.. " Energia Perversa" Nei Meridiani Curiosi. Processo Di Penetrazione E Sua Evoluzione. Riv. Ital. Agopuntura. 1985, XVII(53) : 13.
 20. Colloca A., De Dominics M.. Tipologia Dei Meridiani Curiosi Riv. Intl. Agopuntura. 1986, XVIII, (57) : 5.
 21. Tran Viet Dzung: The Curious Meridians. Amer. J. Acupuncture, 1989, 17(1) : 45.
 22. Trppone M.. Therapeutic Effect of EHF -Puncture on Gastric Polyps: Clinical Analysis of Eleven Cases. Amer. J. Acupuncture, 1991, 19(1) : 11.
 23. Krotenko A., Teppone M., Vetkin A.. Microwaves in Treatment of Coronary Heart Disease (Angina Pectoris). Microwaves in Medicine 1991, 1991, 4 : 213.
 24. Krotenko A., Petrova E., Teppone M. : Polyzone EHF-Therapy of Panic Attyacs. Millimetric Waves of Nonthermal Intensity in Medicine, 1991, 5 : 234.
 25. Teppone M., Krotenko A., Vetkin A. Polyzone EHR-Therapy: EHF-Puncture. Millimetric Waves of Nonthermal Intensity in Medicine, 1991, 5 : 20.

References NN 1-3, 5-13, 25, 26 are in Russian.

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